

We claim:

1. An enzyme-containing granule comprising:

(a) a core granule comprising one or more enzyme particles; and

a water-soluble polymer coating therefor which substantially completely

5 encapsulates said enzyme particles, said polymer coating comprising a

water-soluble or water-dispersible polyester resin, which comprises a

reaction product of 20%-50% by weight of waste terephthalate polymer, 10-

40% by weight of at least one glycol and 5-25% by weight of at least one

oxyalkylated polyol.

10 2. A granule of claim 1, wherein the water-soluble or water-

dispersible polyester resin comprises a reaction product also containing 20-

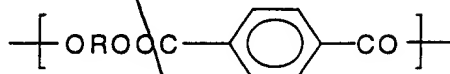
50% by weight of isophthalic acid.

15 3. A granule of claim 2, wherein the water-soluble or water-

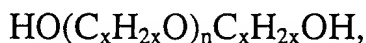
dispersible resin comprises a product of further reaction with 3-15% by

weight of trimellitic acid or trimellitic anhydride.

4. A granule of claim 1, wherein the water-soluble or water-dispersible polyester resin comprises the reaction product of waste terephthalate of the unit formula



wherein R is the residue of an aliphatic or cycloaliphatic glycol of 2-10 carbons or of an oxygenated glycol of the formula



10 wherein x is an integer from 2-4 and n is 1-10.

5. A granule of claim 1, wherein the waste terephthalate polymer is polyethylene terephthalate, polybutylene terephthalate, poly(cyclohexane dimethanol terephthalate) or a mixture thereof.

6. A granule of claim 1, wherein the glycol is ethylene glycol, diethylene glycol, triethylene glycol, cyclohexanedimethanol, propylene glycol, butylene glycol, neopentyl glycol, 1,5-pentanediol, 1,6-hexanediol or a mixture thereof.

7. A granule of claim 1, wherein the glycol is a mixture of diethylene glycol and neopentyl glycol.

5 8. A granule of claim 1, wherein the oxyalkylated polyol is glycerol, trimethylolpropane, trimethylolethane, pentaerythritol, erythritol or a monosaccharide, oxyalkylated with 5-30 moles of ethylene oxide, propylene oxide or a mixture thereof, per hydroxyl of the polyol.

10 9. A granule of claim 1, wherein the water-soluble or water-dispersible polyester resin further comprises 1-10% by weight of a polyol.

10. A granule of claim 3, wherein the water-soluble or water-dispersible polyester resin comprises a reaction product of 20-50% by weight of polyethylene terephthalate, 10-30% by weight of diethylene glycol, 1-10% by weight of pentaerythritol, 5-25% by weight of oxyalkylated glycerol of 5-30 oxyalkyl units per hydroxyl, 20-50% by weight of isophthalic acid and 3-15% by weight of trimellitic acid or trimellitic anhydride.

11. A granule of claim 3, wherein the water-soluble or water-dispersible polyester resin comprises a reaction product of 25-40% by weight of polyethylene terephthalate, 20-30% by weight of diethylene glycol, 1-10% by weight of pentaerythritol, 5-15% by weight of oxyethylated glycerine having 5-30 oxyethylene units per hydroxyl, 20-30% by weight of isophthalic acid and 5-10% by weight of trimellitic acid or trimellitic anhydride.

12. A granule of claim 1, wherein the core enzyme comprises at least one cleaning enzyme selected from the group consisting of amylase, protease, lipase, cellulase, oxidase and mixtures thereof.

13. A granule of claim 12, wherein the enzyme is an amylase.

14. A granule of claim 12, wherein the enzyme is a cellulase or a component thereof.

15. A detergent composition, comprising:

(A) 0.1-20% by weight, based on the composition, of the enzyme-

containing granule as claimed in claim 1;

(B) 0.1-60% by weight, based on the composition, of a detergent builder;

(C) 0-20% by weight, based on the composition, of a surfactant selected from the group consisting of anionic, nonionic, cationic, ampholytic and zwitterionic surfactants or mixtures thereof; and

(D) optionally, water.

16. A process for producing encapsulated enzyme-containing granule as claimed in claim 1, comprising:

10 (a) selecting a core enzyme; and

5437 (b) contacting a granule of core enzyme with at least one water-soluble or water dispersible polyester resin, which comprises a reaction product of 20%-50% by weight of waste terephthalate polymer, 10-40% by weight of at least one glycol and 5-25% by weight of at least one oxyalkylated polyol; and removing any excess water by drying until a continuous film of solid polyester resin is formed around the granule core.

17. A process according to claim 16, in which the granule core is contacted by spraying with an emulsion of the water-soluble or water-dispersible polyester resin as claimed in claim 1.

18. A process according to claim 16, wherein the core enzyme is selected from the group consisting of amylase, protease, lipase, cellulase, oxidase and mixtures thereof.

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19. A process according to claim 18, wherein the enzyme is an amylase.

20. A process according to claim 18, wherein the enzyme is a cellulase.

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